OTIE
Oneida Total Integrated Enterprises

January 23, 2012

Mr. Brian Kelly
On-Scene Coordinator
Emergency Response Branch
U.S. Environmental Protection Agency, Region 5
77 W. Jackson Blvd.
Chicago, IL. 60604

Subject: **Site Assessment Report**
S&K Hand Tools Site
Defiance, Defiance County, Ohio
Technical Direction Document No. TO-01-11-09-0022
OTIE Contract No. EP-S5-10-10

Dear Mr. Kelly:

OTIE is submitting the enclosed Site Assessment Report for the S&K Hand Tools Site in Defiance, Ohio. If you have any questions or comments about the report or need additional copies, please contact me at (312) 220-7000 or Raghu Nagam at (312) 220-7005.

Sincerely,

Naren Babu
Project Manager

Enclosure

cc: Raghu Nagam, START Program Manager

SITE ASSESSMENT REPORT
S&K HAND TOOLS SITE
DEFIANCE, DEFIANCE COUNTY, OHIO

Prepared for:

U.S. Environmental Protection Agency
Emergency Response Branch, Region 5
9311 Groh Road
Grosse Ile, MI 48138

TDD No.:	TO-01-11-09-0022
Date Prepared:	January 23, 2012
Contract No.:	EP-S5-10-10
Prepared by:	OTIE
START Project Manager:	Naren Babu
Telephone No.:	(312) 220-7000
U.S. EPA On-Scene Coordinator:	Brian Kelly
Telephone No.:	(734) 692-7684

100 W Monroe Street, Suite 300
Chicago, IL 60603

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APPENDICES

1 INTRODUCTION

Oneida Total Integrated Enterprises (OTIE) performed a Site Assessment (SA) at the S&K Hand Tool Site (Site) located at 135 Hickory St. in Defiance, Ohio. OTIE, the Superfund Technical Assessment and Response Team (START) contractor, was tasked by the U.S. Environmental Protection Agency (U.S. EPA) under contract No. EP-S5-10-10 and Technical Direction Document (TDD) No. TO-01-11-09-0022 to perform this Site Assessment. START was tasked to prepare a site-specific Health and Safety Plan and a field Sampling and Analysis Plan (SAP); procure the services of an analytical laboratory; collect drum and solid samples; document on-site conditions with written logbook notes and still photographs; evaluate analytical data; and prepare this Site Assessment Report. OTIE START Project Manager Naren Babu and START member Elisa Walker conducted field investigation and sampling on November 30, 2011.

This Site Assessment Report summarizes the site background; discusses the assessment; provides a summary of the analytical data; and discusses potential site-related threats. The Appendix for this report includes a photographic log (Appendix A) and the validated sample analytical results (Appendix B).

2 SITE BACKGROUND

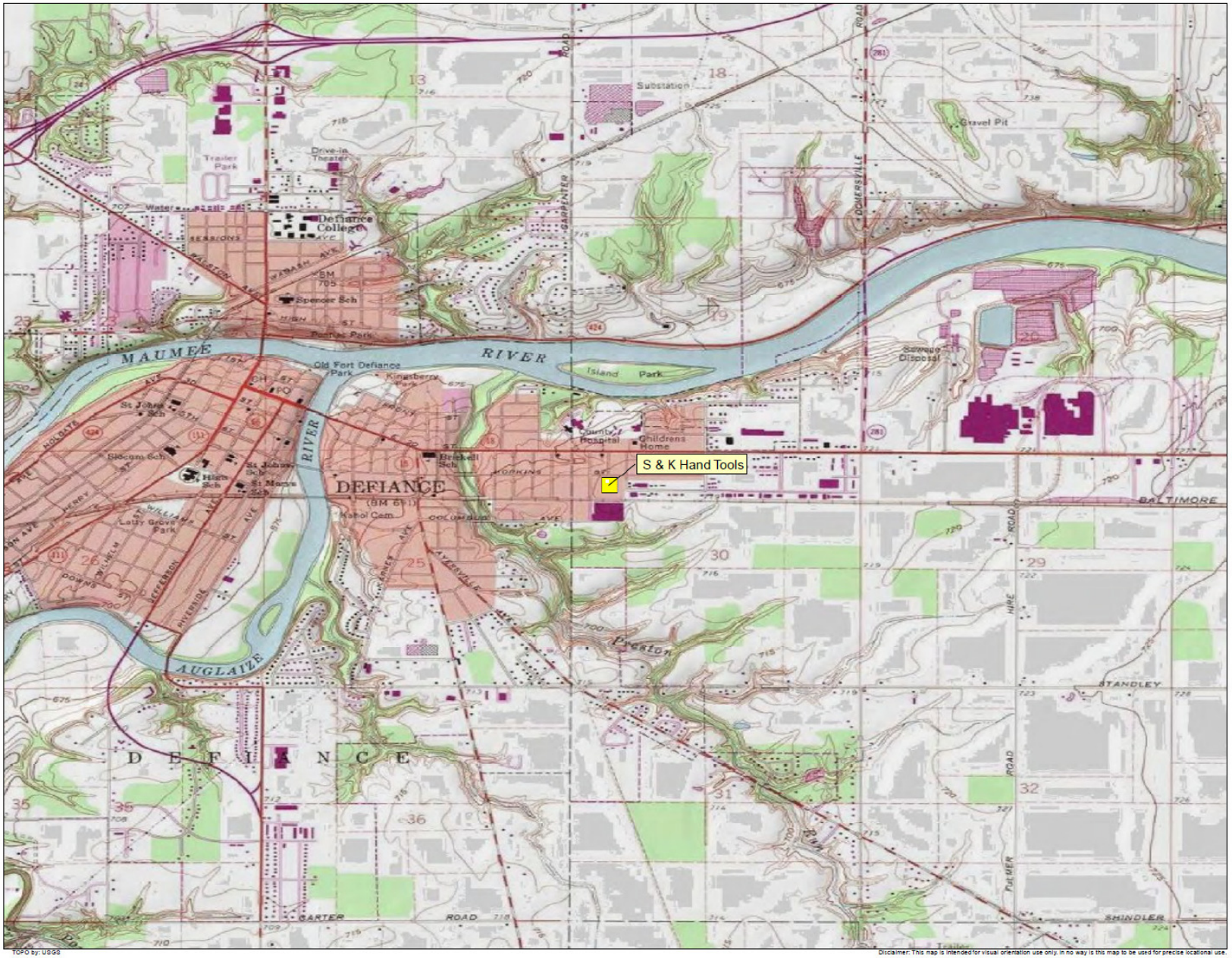
This section provides Site background information and the history of the Site.

2.1 Site Description

S&K Hand Tools is located at 135 Hickory St. in Defiance, Defiance County, Ohio. The geographical coordinates of the Site building are 41°16'49.39"N latitude and - 84°20'21.85"W longitude (Figure 1 – Site Location Map). The Site is located in a populated area surrounded by both commercial and residential properties. The Maumee River is located approximately 1/3rd mile north of the Site and the Auglaize River is located approximately 1 mile west of the Site. The facility is not secured and there is evidence of vandalism. The local county commissioners have expressed concerns regarding the potential release of waste from the site.

2.2 Site History

S&K Hand Tools conducted manufacturing operations at the Site involving metal plating and polishing. Operations at the Site shut down in July, 2010. The Ohio EPA Site records indicate that S&K Hand Tools Company was served a "Cessation of Regulated Operations (CRO)" which expired on April 15, 2011. S&K Hand Tools failed to comply with the CRO and several containers of waste remain at the site. S&K Hand Tool Corporate Headquarters is still in operation and currently located in Sycamore, Illinois.

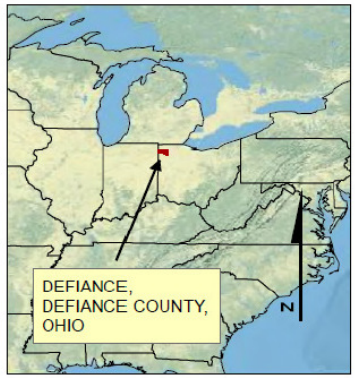


Legend

Site Location

Note:
USGS Topo Quadrangle
USGS-QD-ID: 41084-C3
Quad Name: Defiance East
Date Published: 1980

Feet
0 2,000 4,000



United States Environmental Protection Agency

S & K HAND TOOLS
DEFIANCE,
DEFIANCE COUNTY,
OHIO
TDD NO. TO-01-11-09-022

FIGURE 1
SITE LOCATION MAP

OTIE
Oneida Total Integrated Enterprises

E:\GIS Workspace\S&K Hand Tools

3 SITE ASSESSMENT ACTIVITIES

U.S. EPA and START performed a site assessment, which included site reconnaissance, field screening, and the collection of liquid drum samples. Assessment activities are discussed below.

A site-specific SAP was developed for the SA prior to fieldwork. The SAP described the data quality objectives (DQO), sampling strategy, sampling locations, sampling methodology, and analytical procedures used during the SA.

This section summarizes site reconnaissance (subsection 3.1) and field screening and sampling (subsection 3.2). Table 1 presents a summary of samples collected, sampling locations, and field screening results. Photographic documentation is provided in Appendix A.

3.1 Site Reconnaissance

On November 30, 2011, U.S. EPA On-Scene Coordinator (OSC), Brian Kelly, and OTIE START members Naren Babu and Elisa Walker mobilized to the Site and met with former S&K Hand Tools employee Kirk Etzler. Kirk Etzler indicated that tool making began at the facility in the 1940 and plating operations began prior to the 1970's. OSC Kelly conducted a Health & Safety meeting to discuss the Site hazards. Site reconnaissance was performed in level "D" personal protective equipment (PPE) in accordance with the approved site-specific HASP. START calibrated the MultiRAE® Plus five-gas monitor prior to beginning site reconnaissance. The MultiRAE® Plus instrument included a photoionization detector that measured organic vapors, carbon monoxide (CO) sensor to measure CO, hydrogen sulfide (H_2S) sensor to measure H_2S, lower explosive limit (LEL) sensor to measure explosive atmospheres, and oxygen (O_2) sensor to measure O_2. A VRAE hand-held air monitoring device with a hydrogen cyanide (HCN) gas detection sensor was also used during the site reconnaissance.

The Site consisted of a building surrounded by open area and a parking lot to the west. The 160,533 square foot building is bordered by Hopkins Street to the north, Buckeye Street to the east, railroad track and industrial property to the south, and Hickory Street to the west. The main area of the site building consists of a plating line with a dock and shipping area to the north and a vibrate room and coin-pierce room to the south (Figure 2-Site Features Map). The OSC and START entered the building through an entranceway in the southwest corner of the building. The door had been vandalized; broken glass was observed and the door was not locked at the time of the site reconnaissance. One of the doors leading into an office had also been shattered and opened (Photo #1). Pipe wrap was observed on the floors throughout the facility and overhead pipes were missing and appeared to have been cut out of their original locations

(Photo #2). Inside the Coin Pierce room, there was an electrolysis nickel drum containing white powder on a pallet. Solid material was observed in a red pit in the southwest corner of the vibrate room. A trench in the plating room appeared to contain soil material underneath 2-3 inches of water.

Several blue poly drums labeled with Class "9" placards were observed on the south side of the dock (Photo #3). These drums were also labeled with yellow and red hazardous waste labels with EPA Waste Numbers F006 and D007. Eighty five-55 gallon drums and two~35 gallon drums were found near the west end of the shipping areas of the facility (Photo #4). Several small containers, eleven small poly drums and 21 drums of 55-gallon capacity were observed in the east end of the shipping area. Some of the blue poly 55-gallon drums had labels of "MURIATIC ACID 22º BE'", "HYDROCHLORIC ACID 20 BE", "SODIUM BISULFATE LIQUID 40%", and "SULFURIC ACID 66ºBE'" all accompanied by "corrosive" labels (Photo #5). The "BE" in the label refers to baume, which is a measure of the specific gravity of a liquid. A 55-gallon drum labeled with a "water soluble degreasing solvent" manufactured by "CHEMSEARCH" was located in the plating facility (Photo #6). Two 3,000 gallon tanks with unknown contents were observed outside of the building at the south end of the plating room.

3.2 Field Screening and Sampling

After the site reconnaissance, OSC and START reviewed drum and container information and selected potential drums and locations for sampling. All samples within the Site building were collected in Level "C" PPE. The MultiRAE® Plus and VRAE equipment were used for screening drum contents prior to selecting appropriate samples and to monitor breathing zone air quality.

A sample of the red colored solid from the vibrate room pit was collected and labeled as SK-SS-001. This sample was collected for Toxicity Characteristic Leaching Procedure (TCLP) metals, volatile organic compounds (VOCs), and semi-volatile organic compounds (SVOCs) analysis. Sample SK-SS-002 was a greenish solid material scooped from the floor under 2-3 inches of water near the trench in the plating room. Sample SK-SS-002 was collected for TCLP metals analysis. Solid samples were collected using dedicated stainless steel trowels. Sample SK-DRUM-001 was collected from a blue poly drum labeled as "sulfuric acid" located in the east end of the shipping area (Photo #7). Sample SK-DRUM-002 was collected from the nearby drum labeled "hydrochloric acid". Potential acid fumes were observed emanating from these drums during sampling. A drum with dark brown sludge and strong odor was observed near the acid drums. Field screening of the material indicated 46 ppm VOCs using the MultiRAE® Plus. Sample SK-DRUM-003 was collected from this dark brown sludge material for TCLP VOCs, SVOCs, and metals analysis. Sample SK-DRUM-004 was collected from a small 1-gallon metal

container labeled “BLEND-TYPE 10b (Contains chlorinated hydrocarbons)” (Photo #8). Field screening results at the opening of the container indicated 28 ppm HCN on the VRAE instrument and 100 ppm VOCs on the MultiRAE® Plus. Sample SK-DRUM-004 was sent for cyanide analysis. All drum samples were collected using dedicated glass drum thieves and directly transferred into lab-supplied clean sample jars.

START prepared the sample jars with labels, completed the chain of custody and preserved all samples on ice to below 4ºC. Samples were secured inside a cooler and shipped via FedEx on November 30, 2011 for overnight delivery to Spectrum Analytical, Inc. in Tampa, FL.

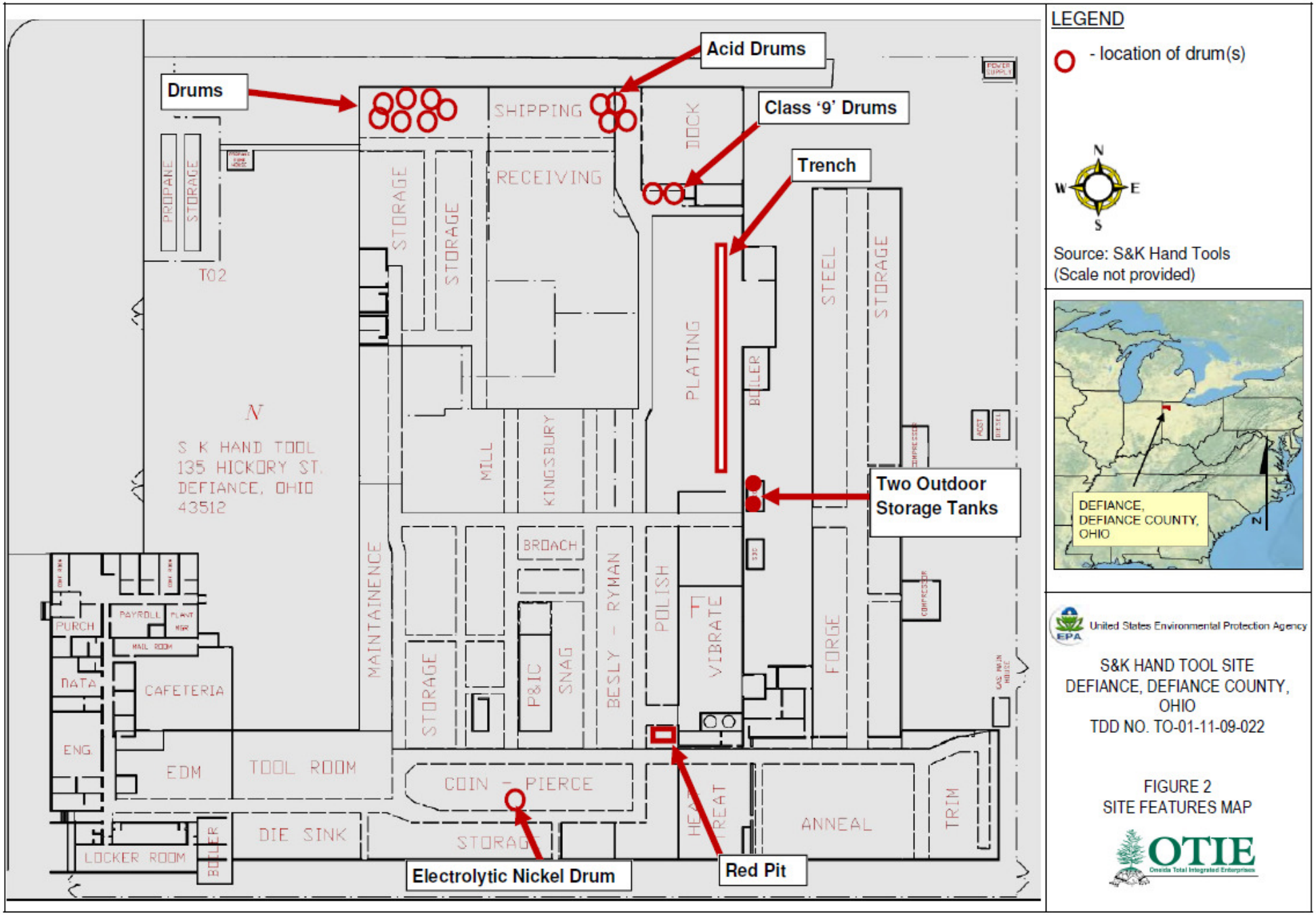

Acid Drums
Drums
Class '9' Drums
Trench
Two Outdoor Storage Tanks
Electrolytic Nickel Drum
Red Pit
SHIPPING
DOCK
RECEIVING
STORAGE
STORAGE
PROPANE STORAGE
T02
PLATING
BOILER
STEEL
STORAGE
MILL
KINGSBURY
BROACH
BESLY - RYMAN
POLISH
VIBRATE
FORGE
MAINTAINENCE
STORAGE
P&IC
SNAG
PURCH
PAYROLL
PLANT
MAIL ROOM
DATA
CAFETERIA
ENG.
EDM
TOOL ROOM
COIN - PIERCE
DIE SINK
STORAGE
LOCKER ROOM
BOILER
ANNEAL
TRIM
N
S K HAND TOOL
135 HICKORY ST.
DEFIANCE, OHIO
43512
LEGEND
- location of drum(s)
N
W
E
S
Source: S&K Hand Tools
(Scale not provided)
DEFIANCE, DEFIANCE COUNTY, OHIO
United States Environmental Protection Agency
S&K HAND TOOL SITE
DEFIANCE, DEFIANCE COUNTY, OHIO
TDD NO. TO-01-11-09-022
FIGURE 2
SITE FEATURES MAP
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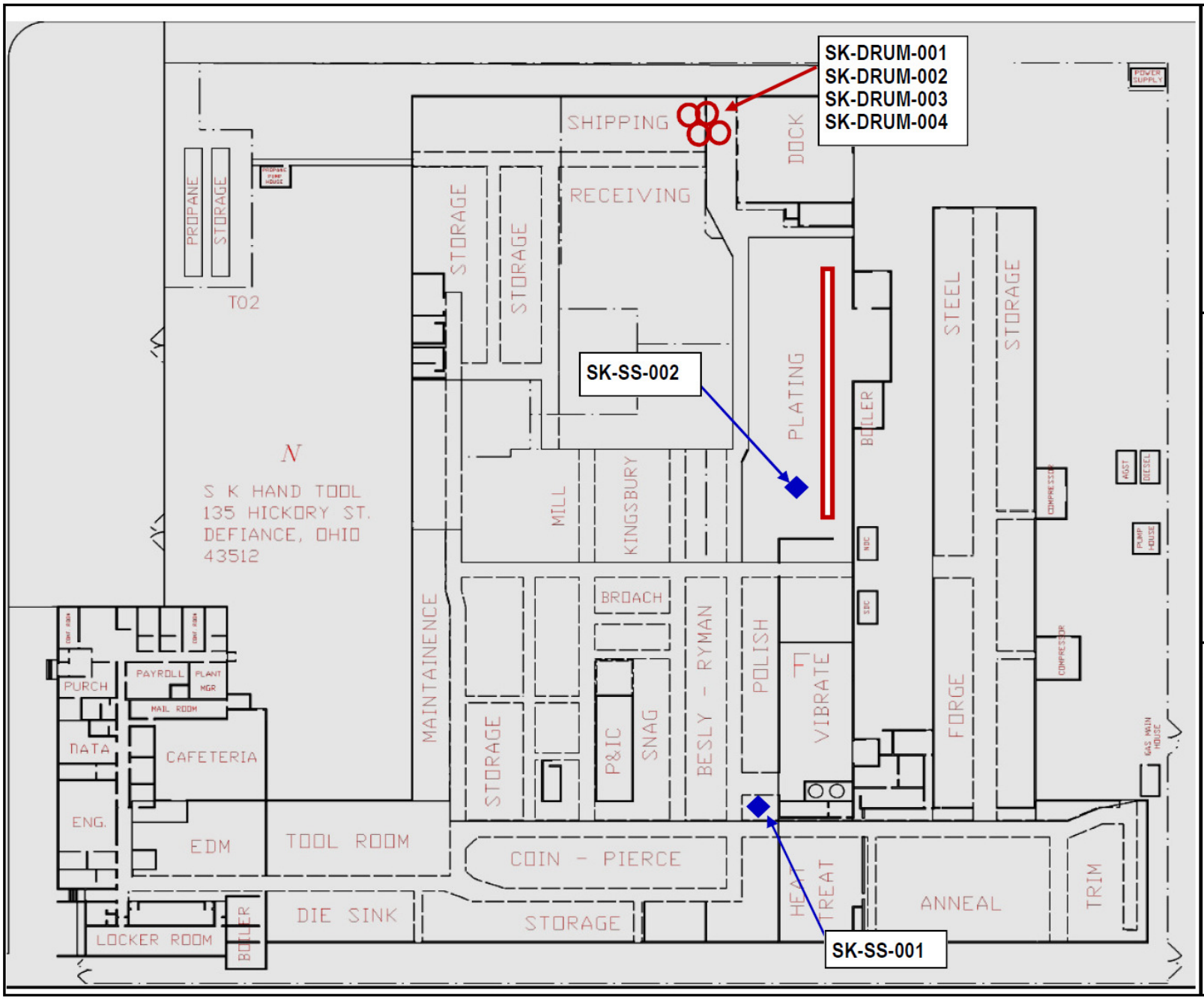
Table 1
Site Assessment Sample Summary
S&K Hand Tools Site
Defiance, OH

Sample ID	Sample Location	Sample Description	Field Screening Results	Laboratory Analysis
SK-SS-001	Pit in vibrate room	Red solid material	none	TCLP metals, VOCs, and SVOCs
SK-SS-002	Floor on west side of trench in plating room	Greenish solid material under 2-3 inches of water	none	TCLP metals
SK-DRUM-001	Blue poly drum labeled "sulfuric acid" in shipping area	Yellowish liquid	none	pH
SK-DRUM-002	Blue poly drum labeled "hydrochloric acid" in shipping area	liquid	none	pH
SK-DRUM-003	Drum in shipping area	Dark brown sludge	46 ppm VOCs	TCLP metals, VOCs, and SVOCs
SK-DRUM-004	1-Gallon metal container labeled "BLEND-TYPE 10b (contains chlorinated hydrocarbons)" in shipping area	Viscous liquid	28 ppm HCN >100 ppm VOCs	cyanide

Notes:
SK-SS-001 S&K Hand Tools sample identification
NR Indicates that field screening results were not recorded in the logbook
TCLP Toxicity Characteristic Leaching Procedure
VOCs volatile organic compounds
SVOCs semi-volatile organic compounds
HCN hydrogen cyanide gas
Samples were collected on November 30, 2011 under TDD No: TO-01-11-09-0022
Field screening conducting using MultiRAE® Plus to detect VOCs and VRAE to detect cyanide



LEGEND

SK-SS-001—Sample ID

— Drum sample location

— Solid sample location

— trench

N W E S

Source: S&K Hand Tools
(Scale not provided)

United States Environmental Protection Agency

S&K HAND TOOL SITE
DEFIANCE, DEFIANCE COUNTY, OHIO
TDD NO. TO-01-11-09-022

FIGURE 3
SITE SAMPLE LOCATION MAP

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4 SAMPLE ANALYTICAL RESULTS

START reviewed the sample analytical data and supporting quality assurance/quality control (QA/QC) data provided by Spectrum Analytical, Inc. The validated analytical data package is included in Appendix B. Based on START's data validation, the data are acceptable for use as qualified.

Sample analytical results that were above the method detection limit (MDL) are shown in Table 2. The results in the table were compared against "Identification and Listing of Hazardous Waste" values listed in 40 Code of Federal Regulations (CFR), Chapter 1, Subchapter 1, Subpart C Characteristics of Hazardous Waste Section 261.22-261.24.

Analytical results of liquid drum samples SK-DRUM-001 and SK-DRUM-002 indicated a pH of 2 standard units (SU). The Hazardous Characterization criteria for corrosivity per 40 CFR Section 261.22 regulations is a pH of less than or equal to 2 SU ($\leq$2) or greater than or equal to 12.5 SU ($\geq$12.5). Based on the analytical results, of sample SK-DRUM-001 and SK-DRUM-002, their respective drum contents are classified as corrosive liquids.

SK-DRUM-004 was analyzed for cyanide. The reported value for cyanide in sample SK-DRUM-004 is 0.291 mg/Kg J. The "J" qualifier indicates that the reported value is estimated. It is used when the data indicates the presence of an analyte above the MDL yet lower than the reporting limit. The 40 CFR 261.23 lists the characteristic of reactivity as cyanide bearing waste which when is exposed to pH conditions between 2 and 12.5 can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.

Sludge sample SK-DRUM-003, and solid samples SK-SS-001 and SK-SS-002 had several detected results for TCLP metals and VOCs, but none of the TCLP results exceeded the 40 CFR Section 261.24 regulatory limits for defining hazardous characteristics. Samples SK-SS-001 AND SK-DRUM-003 were also analyzed for TCLP SVOCs but no analytes were detected above the laboratory method detection limit (MDL).

Table 2 Site Assessment Analytical Results S&K Hand Tools Site Defiance, OH					
Corrosivity and Cyanide					
Group (units of measure)	**Analyte**	**40 CFR Section 261 Regulatory Limit [1]**	**SK-DRUM-001**	**SK-DRUM-002**	**SK-DRUM-004**
Corrosivity (SU)	pH	≤2 or ≥12.5	**2**	**2**	--
Cyanide (mg/Kg)	Cyanide	*	--	--	0.291 J
TCLP Metals &VOCs					
Group (units of measure)	**Analyte**	**40 CFR Section 261 Regulatory Limit [1]**	**SK-DRUM-003**	**SK-SS-001**	**SK-SS-002**
TCLP Metals (mg/L)	Barium	100.00	0.0141 J	0.209	0.256
	Cadmium	1.00	0.0129 J	ND	ND
	Chromium	5.00	0.00732 J	0.0135 J	0.0101 J
	Mercury	0.20	ND	0.000945 J	ND
	Selenium	1.00	ND	0.0648 J	ND
TCLP VOCs (mg/L)	Benzene	0.50	0.0196	ND	--
	2-Butanone	200.00	1.4	ND	--
	Tetrachloroethene	0.70	ND	0.0081	--

Notes:

*	40 CFR 261.23 lists the characteristic of reactivity as cyanide bearing waste which when exposed to pH conditions between 2 and 12.5 can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment
--	analyte not analyzed
[1]	Hazardous Characterization criteria according to 40 CFR Sections 261.21-261.24
BOLD	analytical result exceeded 40 CFR Section 261 Regulatory Limit
J	indicates estimated valued. It is used when the data indicates the presence of an analyte above the method detection limit (MDL), but lower than the reporting limit
mg/L	milligrams per liter
mg/Kg	milligrams per kilogram
ND	analyte not detected above the laboratory method detection limit
SK-SS-001	sample ID
SU	standard units
VOCs	volatile organic compounds

Only detected compounds are listed in the table

Samples were collected on November 30, 2011 under START contract EP-S5-10-10.

Analyses were conducted by Spectrum Analytical, Inc. under TDD No: TO-01-11-09-0022

5 POTENTIAL SITE RELATED THREATS

Threats posed by condition and on-site contamination were evaluated in accordance with National Contingency Plan (NCP) criteria for initiating a removal action listed under Title 40 of the CFR, Section 300.415(b) (2). Paragraph (b) (2) of 40 CFR Section 300.415 lists factors to be considered when determining the appropriateness of a potential removal action at a Site. Potential site-related threats to human health and the environment were evaluated based on the criteria listed in 40 CFR, Sections 261.20 through 261.31. Factors that may be applicable to the Site are discussed below.

Actual or potential exposure of nearby human populations, animals, or the food chain to hazardous substances or pollutants or contaminants

The sample results of SK-DRUM-001 and SK-DRUM-002 indicate that the blue poly drums contain strong acids that satisfy the Hazardous Characterization criteria for corrosivity per 40 CFR Section 261.22.

Sample SK-DRUM-004 was analyzed for cyanide and was reported to have a cyanide concentration of 0.291 mg/Kg. The 40 CFR 261.23 lists the characteristic of reactivity as cyanide bearing waste which when exposed to pH conditions between 2 and 12.5 can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment. The sample SK-DRUM-004 container was located in close proximity to numerous drums containing acids and bases. Exposure to low levels of cyanide may cause breathing difficulties, vomiting, blood changes, headaches and thyroid gland enlargement (ATSDR, 2011).

Several blue poly drums labeled with Class “9” placards were observed on the south side of the dock (Photo #3). These drums were also labeled with yellow and red hazardous waste labels with EPA Waste Numbers F006 and D007. EPA hazardous waste number F006 indicates the drums contain wastewater treatment sludges from electroplating per the 40 CFR 261.31 regulations for hazardous waste from non-specific sources. EPA hazardous waste number D007 indicates that the contents of the drums exceed the maximum concentration of contaminants for the toxicity characteristic of 5.0 mg/L for chromium per 40 CFR 261.24.

The drums and container discussed above are located inside the Site building with no secondary containment. Signs of trespassing and vandalism were evident in the Site building. Overall, the potential for exposure to hazardous substances stored at the Site is high. The presence of hazardous material poses

a threat to nearby residents through direct exposure since the cyanide contents and corrosive drum content can come into contact through acts of vandalism and potentially release cyanide gases.

Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers that may pose a threat of release

There is evidence of vandalism at the Site. At the time of Site reconnaissance, one or more entrances to the building had unlocked doors. Unsecured access and vandalism could cause the drums and containers in the facility to be tipped, releasing their contents. The cyanide containing drum could be exposed to pH conditions between 2 and 12.5 corrosive drum contents and create toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment. In case of fire, the material stored in drums could result in the release of toxic gases causing potential exposure to nearby residents.

6 SUMMARY

On November 30, 2011, U.S. EPA and START conducted a site assessment at the S&K Hand Tools Site in Defiance, Ohio. Field screening with VOC and cyanide monitors was performed on drum contents prior to sampling. During sampling, liquid, sludge, and solid samples were collected and submitted for cyanide, TCLP metals, VOCs, and SVOCs analyses and pH determination.

Sample analytical results were evaluated against the Criteria of Characteristics of Hazardous Waste per 40 CFR Sections 261.20 through 261.24. At least one sampled container at the Site contained cyanide and met the cyanide characteristic of reactivity per 40 CFR 261.23 regulations. This container was highly deteriorated. Two of the drums sampled contained highly acidic compounds that satisfy the hazardous characterization criteria for corrosivity per 40 CFR Section 261.22. Several drums were labeled with EPA hazardous waste numbers per 40 CFR Section 261.24 and Section 261.31. The presence of these hazardous wastes may pose a threat to nearby residents through direct exposure since the Site has evidence of vandalism. The hazardous wastes analyzed at the Site may meet the criteria of the NCP for initiating a removal action listed under Title 40 of the CFR, Section 300.415(b) (2).

7 REFERENCES

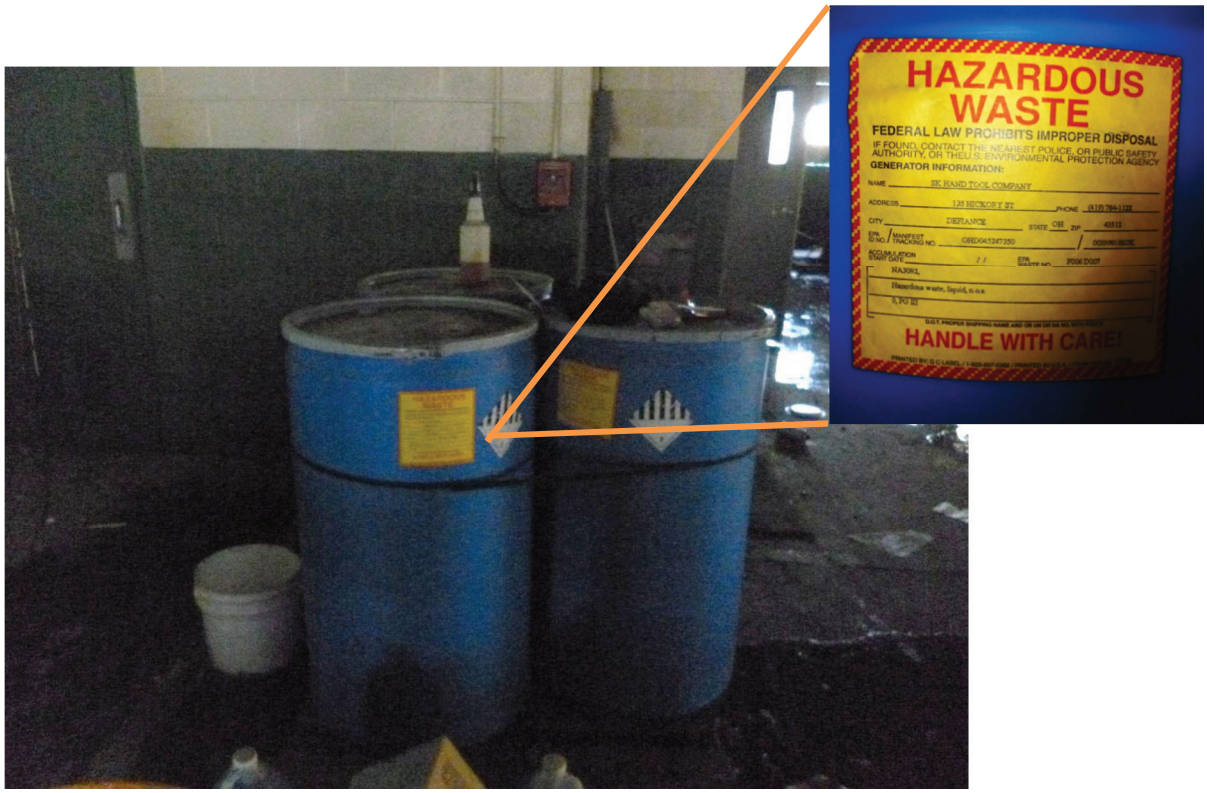
ATSDR, 2011. ToxFAQs for Cyanide. Accessed at: http://www.atsdr.cdc.gov/toxfaqs/tf.asp?id=7-1&tid=19

APPENDIX A

PHOTOGRAPHIC LOG

Photograph No.: 1 **Photographer:** Naren Babu **Orientation:** Northeast
TDD Number: TO-01-11-09-0022 **Contract:** EP-S5-10-10, OTIE **Date:** November 30,2011
Site Name & Location: S&K Hand Tool Site, Defiance, Defiance County, OH
Subject: Broken window in the left side office door, providing easy access to opening the door.

Photograph No.: 2 **Photographer:** Naren Babu **Orientation:** Looking up
TDD Number: TO-01-11-09-0022 **Contract:** EP-S5-10-10, OTIE **Date:** November 30,2011
Site Name & Location: S&K Hand Tool Site, Defiance, Defiance County, OH
Subject: Overhead piping that has been cut off by vandals.



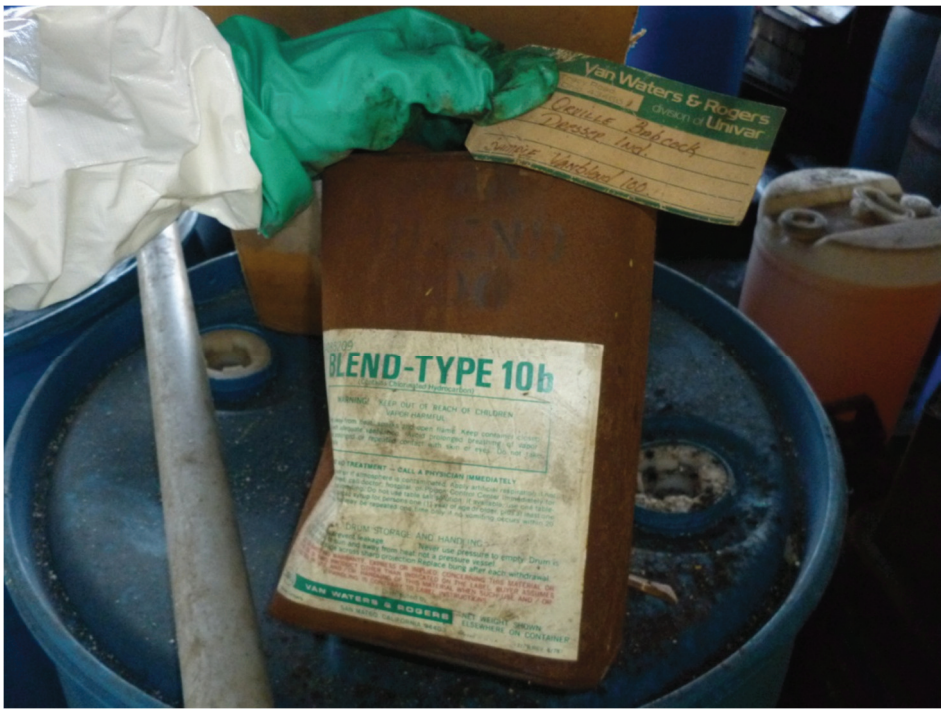
Photograph No.: 3 **Photographer:** Naren Babu **Orientation:** East
TDD Number: TO-01-11-09-0022 **Contract:** EP-S5-10-10, OTIE **Date:** November 30, 2011
Site Name & Location: S&K Hand Tool Site, Defiance, Defiance County, OH
Subject: Blue poly drum on south side of dock with Hazardous Waste class '9' placards.

Photograph No.: 4 **Photographer:** Naren Babu **Orientation:** West
TDD Number: TO-01-11-09-0022 **Contract:** EP-S5-10-10, OTIE **Date:** November 30, 2011
Site Name & Location: S&K Hand Tool Site, Defiance, Defiance County, OH
Subject: Drums in the west end of the shipping area.

Photograph No.: 5 **Photographer:** Naren Babu **Orientation:** East
TDD Number: TO-01-11-09-0022 **Contract:** EP-S5-10-10, OTIE **Date:** November 30, 2011
Site Name & Location: S&K Hand Tool Site, Defiance, Defiance County, OH
Subject: Acid drums located at the east end of the shipping area.

Photograph No.: 6 **Photographer:** Naren Babu **Orientation:** Looking down
TDD Number: TO-01-11-09-0022 **Contract:** EP-S5-10-10, OTIE **Date:** November 30,2011
Site Name & Location: S&K Hand Tool Site, Defiance, Defiance County, OH
Subject: Metal drum with "water soluble degreasing solvent" label and manufactured by "CHEMSEARCH"

Photograph No.: 7 **Photographer:** Naren Babu **Orientation:** East
TDD Number: TO-01-11-09-0022 **Contract:** EP-S5-10-10, OTIE **Date:** November 30,2011
Site Name & Location: S&K Hand Tool Site, Defiance, Defiance County, OH
Subject: START collecting sample SK-DRUM-001 from a blue poly drum labeled "sulfuric acid" in the east end of the shipping area. Analytical results indicated a pH of 2 SU.



Photograph No.: 8 **Photographer:** Naren Babu **Orientation:** Looking Down
TDD Number: TO-01-11-09-0022 **Contract:** EP-S5-10-10, OTIE **Date:** November 30,2011
Site Name & Location: S&K Hand Tool Site, Defiance, Defiance County, OH
Subject: Sample SK-DRUM-004 container with the label "BLEND-TYPE 10b (contains chlorinated hydrocarbons)". Analytical results indicated 0.291 mg/Kg cyanide and field screening indicated 28 ppm HCN and >100 ppm VOCs.

APPENDIX B

VALIDATED LABORATORY ANALYTICAL RESULTS

OTIE Oneida Total Integrated Enterprises
1220 Kennestone Circle, Suite 106 ● Atlanta, GA 30060 ● (678) 355-5550 ● (770) 528-0167 (Fax)

MEMORANDUM

Date: January 18, 2012

To: Naren Babu, Project Manager, OTIE
Superfund Technical Assessment and Response Team (START) for Region 5

Prepared by: Renea Anglin, START chemist for Region 4

QA/QC Concurrence by: Keely Meadows

Subject: Data Validation for
S&K Hand Tools
Defiance, OH
Project TDD No. TO-01-11-09-0022

Laboratory: Spectrum Analytical, Inc. in Tampa, Florida.
Sample Delivery Group (SDG): 3504671

1.0 INTRODUCTION

The START chemist for Region 4 validated analytical data for 1 water sample for volatile organic compounds (VOCs), 2 solid samples for toxicity characteristic leaching procedure (TCLP) VOCs and TCLP semivolatile organic compounds (SVOCs), 3 solid samples for TCLP Metals, 2 liquid samples for pH, and 1 solid sample for Cyanide. Samples were collected at the S&K Hand Tools site on November 30, 2011. The samples were analyzed under SDG 3504671 by Spectrum Analytical, Inc. of Tampa, Florida, using U.S. Environmental Protection Agency (U.S. EPA) methods 8260B, 1311/8260B, 1311/8270C, 1311/6010B/7470A, 9012B, and SM4500-H B.

Laboratory data were validated using guidelines set forth in the U.S. EPA Contract Laboratory Program National Functional Guidelines (NFG) for Organic Data Review (EPA-540-R-08-01, June 2008), NFG for Inorganic Data Review (EPA-540-R-10-011, January 2010), and applicable methodologies. The purpose of the chemical data quality evaluation process is to assess the usability of data for the project decision-making process.

Organic data validation consisted of a review of the following QC audits:

- Chain of custody and sample receipt forms review
- Sample preservation and holding time
- Blank results
- Surrogate recoveries
- Matrix spike and Matrix Spike Duplicate (MS/MSD) recovery results
- Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD) recovery results

Inorganic data validation consisted of a review of the following QC audits:

- Chain of custody and sample receipt forms review
- Sample preservation and holding time
- Blank results
- Duplicate Sample Results

- LCS recovery results
- MS/MSD recovery results

Section 2.0 of this memorandum discusses the results of organic data validation. Section 3.0 of this memorandum discusses the results of inorganic data validation. Section 4.0 presents an overall assessment of the data. The attachment to this memorandum contains the laboratory reporting forms as well as START's handwritten data qualifications where warranted.

2.0 ORGANIC DATA VALIDATION RESULTS

The results of START's organic data validation are summarized below by QC audit reviewed. The data qualifiers listed below were applied to sample analytical results where warranted (see attachment):

- J – The analyte was detected. The reported concentration was considered estimated.
- U – The analyte was not detected.
- UJ – The analyte was not detected. The reporting limit was considered estimated.

After the START project staff received the data packages, they were inventoried for completeness and then reviewed according to matrix-specific protocols and data quality objectives established for the project.

2.1 WATER SAMPLES BY METHOD 8260B

2.1.1 SAMPLE HANDLING

Chain of custody documentation and sample receipt forms were reviewed to ensure requested analyses were performed and that samples arrived at the laboratory intact. Water samples were collected on November 30, 2011 and were received on ice by the laboratory. No discrepancies were noted.

2.1.2 SAMPLE PRESERVATION AND HOLDING TIME

VOC samples were analyzed within holding time criteria. No discrepancies were noted.

2.1.3 BLANK RESULTS

The purpose of laboratory (or field) blank analysis is to determine the existence and magnitude of contamination resulting from laboratory (or field) activities. A Laboratory method blank sample (121211BLK62) was run with this SDG. A trip blank was also submitted for analysis of VOCs.

Acetone was detected at 2.1 µg/L in the method blank. Therefore, Acetone was qualified as non-detect and flagged "U" in sample SK-Trip-01, due to blank contamination.

A trip blank, SK-Trip-1, was submitted to the laboratory for analysis. The trip blank showed Acetone at 4.8 µg/L and Methylene Chloride at 11.4 µg/L. Both analytes are common laboratory contaminants, and the laboratory is the most common source. These compounds were not detected in any of the sample results. Therefore, no action was taken to qualify for this deficiency.

2.1.4 SURROGATE RECOVERIES

Laboratory performance on individual samples is established by means of fortifying each sample with surrogate compounds (System Monitoring Compounds). Surrogate spike compounds included Dibromofluoromethane, Toluene-d8, 4-Bromofluorobenzene, and 1,2-Dichloroethane.

No discrepancies were noted.

2.1.5 MS/MSD RECOVERY RESULTS

Data for MS/MSDs are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis.

No MS/MSD samples were requested for this SDG.

2.1.6 LCS/LCSD RECOVERY RESULTS

Data for the LCS/LCSD is generated to provide information on the accuracy of the analytical method and on the laboratory performance. The LCS/LCSD is fortified with the full list of VOCs and analyzed with each batch of samples. The LCS/LCSD accuracy performance is measured by Percent Recovery (%R).

The LCS/LCSD was within QC limits.

2.2 TCLP SAMPLES BY METHOD 1311/8260B

2.2.1 SAMPLE HANDLING

Chain of custody documentation and sample receipt forms were reviewed to ensure requested analyses were performed and that samples arrived at the laboratory intact. Soil samples were collected on November 30, 2011 and were received on ice by the laboratory.

2.2.2 SAMPLE PRESERVATION AND HOLDING TIME

Samples were analyzed within holding time criteria. No discrepancies were noted.

2.2.3 BLANK RESULTS

The purpose of laboratory (or field) blank analysis is to determine the existence and magnitude of contamination resulting from laboratory (or field) activities. A laboratory method blank sample (121511BLK31) was run with this SDG.

No laboratory method blank detects were noted.

2.2.4 SURROGATE RECOVERIES

Laboratory performance on individual samples is established by means of fortifying each sample with surrogate compounds (System Monitoring Compounds). Surrogate spike compounds included Dibromofluoromethane, Toluene-d8, 4-Bromofluorobenzene, and 1,2-Dichloroethane.

No discrepancies were noted.

2.2.5 MS/MSD RECOVERY RESULTS

Data for MS/MSDs are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis.

No MS/MSD samples were requested for this SDG.

2.2.6 LCS RECOVERY RESULTS

Data for the LCS is generated to provide information on the accuracy of the analytical method and on the laboratory performance. The LCS is fortified with VOCs and analyzed with each batch of samples. The LCS accuracy performance is measured by %R.

LCS/LCSD recoveries and RPDs were within limits.

2.3 TCLP SAMPLES BY METHOD 1311/8270C

2.3.1 SAMPLE HANDLING

Chain of custody documentation and sample receipt forms were reviewed to ensure requested analyses were performed and that samples arrived at the laboratory intact. Soil samples were collected on November 30, 2011 and were received on ice.

2.3.2 SAMPLE PRESERVATION AND HOLDING TIME

The TCLP SVOC sample was analyzed within holding time criteria. No discrepancies were noted.

2.3.3 BLANK RESULTS

The purpose of laboratory (or field) blank analysis is to determine the existence and magnitude of contamination resulting from laboratory (or field) activities. A laboratory method blank sample (110751MB) was run with this SDG.

No laboratory method blank detects were noted.

2.3.4 SURROGATE RECOVERIES

Laboratory performance on individual samples is established by means of fortifying each sample with surrogate compounds. Surrogate spike compounds included 2-Fluorophenol, Phenol-d5, Nitrobenzene-d5, 2-Fluorobiphenyl, 2,4,6-Tribromophenol, and Terphenyl-d14.

Sample SK-Drum-003 was diluted an additional 20x for a total of 200x, and the surrogates were diluted out and could not be evaluated.

2.3.5 MS/MSD RECOVERY RESULTS

Data for MS/MSD are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis.

No MS/MSD samples were requested for this SDG.

2.3.6 LCS RECOVERY RESULTS

Data for the LCS is generated to provide information on the accuracy of the analytical method and on the laboratory performance. The LCS were fortified with SVOCs and analyzed with each batch of samples. The LCS accuracy performance is measured by %R.

LCS recoveries were within limits.

2.3.7 GENERAL LABORATORY OBSERVATIONS

The laboratory noted that sample SK-Drum-003 could not be blown down to less than 10mL. SK-Drum-003 was analyzed without a dilution; however, due to the large amount of non-target analytes, the internal standards did not pass QC limits. The sample was re-analyzed at a 20x dilution, for at 200x dilution overall, and is only reported at this dilution. Due to the high dilution, surrogates were diluted out.

3.0 INORGANIC DATA VALIDATION RESULTS

The results of START's inorganic data validation are summarized below by QC audit reviewed. The data qualifiers listed below were applied to sample analytical results where warranted:

- J – The analyte was detected. The reported concentration was considered estimated.
- U – The analyte was not detected.
- UJ – The analyte was not detected. The reporting limit was considered estimated.

After the START project staff received the data packages, they were inventoried for completeness and then reviewed according to matrix-specific protocols and data quality objectives established for the project.

3.1 LIQUID SAMPLES BY METHOD 9012 (CYANIDE)

3.1.1 SAMPLE HANDLING

Chain of custody documentation and sample receipt forms were reviewed to ensure requested analyses were performed and that samples arrived at the laboratory intact. Soil samples were collected on November 30, 2011 and were received on ice.

3.1.2 SAMPLE PRESERVATION AND HOLDING TIME

Samples were analyzed within the holding time criteria. No discrepancies were noted.

3.1.3 BLANK RESULTS

The assessment of blank analysis results is to determine the existence and magnitude of contamination resulting from laboratory and/or field activities. A laboratory method blank sample (110396MB) for method 9012 was run with this SDG.

No laboratory method blank detects were noted.

3.1.4 LCS RECOVERY RESULTS

The LCS serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. The LCS is fortified with each analyte of interest and analyzed with each batch of samples. The LCS accuracy performance is measured by %R.

The LCS/LCSD %R were within acceptable recovery limits.

3.1.5 MS/MSD RECOVERY RESULTS

The spiked sample analysis is designed to provide information about the effect of each sample matrix on the sample preparation procedures and the measurement methodology. The MS/MSD accuracy performance is measured by %R.

No MS/MSD was requested with this SDG.

3.2 TCLP SAMPLES BY METHOD 1311/6010 B/7470A

3.2.1 SAMPLE HANDLING

Chain of custody documentation and sample receipt forms were reviewed to ensure requested analyses were performed and that samples arrived at the laboratory intact. Samples were collected on November 30, 2011 and were received on ice. No discrepancies were noted.

3.2.2 SAMPLE PRESERVATION AND HOLDING TIME

Samples were analyzed within the holding time criteria. No discrepancies were noted.

3.2.3 BLANK RESULTS

The assessment of blank analysis results is to determine the existence and magnitude of contamination resulting from laboratory and/or field activities. A laboratory method blank sample for method 6010 TCLP (109579) and a laboratory method blank sample for method 7470 TCLP (109580MB) were run with this SDG.

No laboratory method blank detects were noted.

3.2.4 LCS RECOVERY RESULTS

The LCS serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. The LCS is fortified with each analyte of interest and analyzed with each batch of samples. The LCS accuracy performance is measured by %R.

The LCS/LCSD were within acceptable recovery limits.

3.2.5 MS/MSD RECOVERY RESULTS

The spiked sample analysis is designed to provide information about the effect of each sample matrix on the sample preparation procedures and the measurement methodology. The MS/MSD accuracy performance is measured by %R.

No MS/MSD was requested for these analyses for this SDG.

3.2.6 GENERAL LABORATORY OBSERVATIONS

The laboratory noted that ICB1039119 had a silver value of 0.00621 mg/L. This value is below the RL and is the only ICB that showed any result for silver. None of the samples had any detected values for silver. Therefore, no further action was required.

4.0 WET CHEMISTRY DATA VALIDATION RESULTS

4.1 LIQIUD SAMPLES BY METHOD 150.1/SM4500-H-B (pH)

4.1.1 SAMPLE HANDLING

Chain of custody documentation and sample receipt forms were reviewed to ensure requested analyses were performed and that samples arrived at the laboratory intact. Water samples were collected on November 30, 2011 and were received on ice. No discrepancies were noted.

4.1.2 SAMPLE PRESERVATION AND HOLDING TIME

Samples were analyzed within the holding time criteria.

No discrepancies were noted.

4.1.3 LCS RECOVERY RESULTS

The LCS serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. The LCS is fortified with each analyte of interest and analyzed with each batch of samples. The LCS accuracy performance is measured by %R.

The LCS/LCSD %R were all within acceptable recovery limits.

4.1.4 SAMPLE DUPLICATE

For tests where the addition of spiking material is impractical, samples are run in duplicate and the relative percent difference (RPD) of the two readings is compared. The duplicate analysis provides information about the reproducibility or precision of the laboratory analysis.

A sample duplicate was performed on SK-Drum-001. The RPD was within acceptable limits.

5.0 OVERALL ASSESSMENT OF DATA

The analytical results meet the data quality objectives defined by the applicable method and validation guidance documentation. The analytical data is usable and acceptable as reported by the laboratory.

ATTACHMENT

SUMMARY OF VALIDATED ANALYTICAL RESULTS

AND

CHAIN-OF-CUSTODY

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1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SK-DRUM-004

Lab Name: Spectrum Analytical, Inc. Contract: S&K Hand Tools

Lab Code : PEL Case No.: SAS No: SDG No.: 3504671

Matrix: SOIL Lab Sample ID: 350467106

Level:(low/med) LOW Date Received: 12/1/2011

PercentSolids: 100 Station ID:

CONCENTRATION UNITS: MG/KG

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
5955-70-0	Cyanide	0.291	J		CA		0.029	10

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

161211 1609

1-23-12

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

110396MB

Lab Name: Spectrum Analytical, Inc. Contract: S&K Hand Tools

Lab Code : PEL Case No.: SAS No: SDG No.: 3504671

Matrix: SOIL Lab Sample ID: 110396MB

Level:(low/med) LOW Date Received: 12/8/2011

PercentSolids: 100 Station ID:

CONCENTRATION UNITS: MG/KG

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
5955-70-0	Cyanide	10	U		CA		0.029	10

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

161211 1809

12-23-12

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SK-SS-001

Lab Name: Spectrum Analytical, Inc. Contract: S&K Hand Tools

Lab Code : PEL Case No.: SAS No: SDG No.: 3504671

Matrix: SOIL Lab Sample ID: 350467101

Level:(low/med) LOW Date Received: 12/1/2011

PercentSolids: 0 Station ID:

TCLP Analysis

CONCENTRATION UNITS: MG/L

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
7440-38-2	Arsenic	0.1	U		P		0.0331	0.1
7440-39-3	Barium	0.209			P		0.0022	0.1
7440-43-9	Cadmium	0.05	U		P		0.0072	0.05
7440-47-3	Chromium	0.0135	J		P		0.0043	0.1
7439-92-1	Lead	0.15	U		P		0.037	0.15
7439-97-6	Mercury	0.000945	J		CV		0.00037	0.002
7782-49-2	Selenium	0.0648	J		P		0.041	0.2
7440-22-4	Silver	0.1	U		P		0.0052	0.1

Color Before: _____ Clarity Before: _____ Texture : _____

Color After : _____ Clarity After: _____ Artifacts: _____

Comments:

161211 1609

1-23-12

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SK-SS-002

Lab Name: Spectrum Analytical, Inc. Contract: S&K Hand Tools

Lab Code : PEL Case No.: SAS No: SDG No.: 3504671

Matrix: SOIL Lab Sample ID: 350467104

Level:(low/med) LOW Date Received: 12/1/2011

PercentSolids: 0 Station ID:

TCLP Analysis

CONCENTRATION UNITS: MG/L

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
7440-38-2	Arsenic	0.1	U		P		0.0331	0.1
7440-39-3	Barium	0.256			P		0.0022	0.1
7440-43-9	Cadmium	0.05	U		P		0.0072	0.05
7440-47-3	Chromium	0.0101	J		P		0.0043	0.1
7439-92-1	Lead	0.15	U		P		0.037	0.15
7439-97-6	Mercury	0.002	U		CV		0.00037	0.002
7782-49-2	Selenium	0.2	U		P		0.041	0.2
7440-22-4	Silver	0.1	U		P		0.0052	0.1

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

161211 1809

1-23-12

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SK-DRUM-003

Lab Name: Spectrum Analytical, Inc. Contract: S&K Hand Tools

Lab Code : PEL Case No.: SAS No: SDG No.: 3504671

Matrix: SOIL Lab Sample ID: 350467105

Level:(low/med) LOW Date Received: 12/1/2011

PercentSolids: 0 Station ID:

TCLP Analysis

CONCENTRATION UNITS: MG/L

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
7440-38-2	Arsenic	0.1	U		P		0.0331	0.1
7440-39-3	Barium	0.0141	J		P		0.0022	0.1
7440-43-9	Cadmium	0.0129	J		P		0.0072	0.05
7440-47-3	Chromium	0.00732	J		P		0.0043	0.1
7439-92-1	Lead	0.15	U		P		0.037	0.15
7439-97-6	Mercury	0.002	U		CV		0.00037	0.002
7782-49-2	Selenium	0.2	U		P		0.041	0.2
7440-22-4	Silver	0.1	U		P		0.0052	0.1

Color Before: _____ Clarity Before: _____ Texture : _____

Color After : _____ Clarity After: _____ Artifacts: _____

Comments:

161211 1609

1-23-12

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

109579MB

Lab Name: Spectrum Analytical, Inc. Contract: S&K Hand Tools

Lab Code : PEL Case No.: SAS No: SDG No.: 3504671

Matrix: WATER Lab Sample ID: 109579MB

Level:(low/med) LOW Date Received: 12/2/2011

PercentSolids: 0 Station ID:

TCLP Analysis

CONCENTRATION UNITS: MG/L

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
7440-38-2	Arsenic	0.1	U		P		0.0331	0.1
7440-39-3	Barium	0.1	U		P		0.0022	0.1
7440-43-9	Cadmium	0.05	U		P		0.0072	0.05
7440-47-3	Chromium	0.1	U		P		0.0043	0.1
7439-92-1	Lead	0.15	U		P		0.037	0.15
7782-49-2	Selenium	0.2	U		P		0.041	0.2
7440-22-4	Silver	0.1	U		P		0.0052	0.1

Color Before: _____ Clarity Before: _____ Texture : _____

Color After : _____ Clarity After: _____ Artifacts: _____

Comments:

161211 1810

12-23-12

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

109580MB

Lab Name: Spectrum Analytical, Inc. Contract: S&K Hand Tools

Lab Code : PEL Case No.: SAS No: SDG No.: 3504671

Matrix: WATER Lab Sample ID: 109580MB

Level:(low/med) LOW Date Received: 12/2/2011

PercentSolids: 0 Station ID:

TCLP Analysis

CONCENTRATION UNITS: MG/L

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
7439-97-6	Mercury	0.002	U		CV		0.00037	0.002

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

161211 1810

1-23-12

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SK-DRUM-001

Lab Name: Spectrum Analytical, Inc. Contract: S&K Hand Tools

Lab Code : PEL Case No.: SAS No: SDG No.: 3504671

Matrix: WATER Lab Sample ID: 350467102

Level:(low/med) LOW Date Received: 12/1/2011

PercentSolids: 0 Station ID:

CONCENTRATION UNITS: PH

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
1-00-6	pH	2	U		N/A		2	2

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

161211 1810

1-23-12

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INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SK-DRUM-002

Lab Name: Spectrum Analytical, Inc. Contract: S&K Hand Tools

Lab Code : PEL Case No.: SAS No: SDG No.: 3504671

Matrix: WATER Lab Sample ID: 350467103

Level:(low/med) LOW Date Received: 12/1/2011

PercentSolids: 0 Station ID:

CONCENTRATION UNITS: PH

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
1-00-6	pH	2	U		N/A		2	2

Color Before: _____ Clarity Before: _____ Texture : _____

Color After : _____ Clarity After: _____ Artifacts: _____

Comments:

161211 1810

1-23-12

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SK-TRIP-01

Lab Name: Spectrum Analytical, Inc. Contract: S&K Hand Tools

Lab Code : PEL Case No. SAS No: SDG No.: 3504671

Matrix: WATER Lab Sample ID: 350467107 Lab File ID: 467107.D

Sample wt/vol: 5 Units: ML Date Received: 12/01/11

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/12/11 Time: 1800

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
75-71-8	Dichlorodifluoromethane	1	U	0.17	1
74-87-3	Chloromethane	1	U	0.32	1
75-01-4	Vinyl chloride	1	U	0.18	1
74-83-9	Bromomethane	1	U	0.43	1
75-00-3	Chloroethane	1	U	0.72	1
75-69-4	Trichlorofluoromethane	1	U	0.4	1
75-35-4	1,1-Dichloroethene	0.5	U	0.19	0.5
74-88-4	Methyl iodide	1	U	0.74	1
75-15-0	Carbon disulfide	1	U	0.19	1
75-09-2	Methylene chloride	11.4		0.66	5
156-60-5	trans-1,2-Dichloroethene	0.5	U	0.33	0.5
75-34-3	1,1-Dichloroethane	1	U	0.15	1
67-64-1	Acetone	4.8	JB	1.3	10
594-20-7	2,2-Dichloropropane	1	U	0.6	1
156-59-2	cis-1,2-Dichloroethene	0.5	U	0.19	0.5
74-97-5	Bromochloromethane	1	U	0.17	1
78-93-3	2-Butanone	4	U	2	4
67-66-3	Chloroform	0.5	U	0.16	0.5
71-55-6	1,1,1-Trichloroethane	1	U	0.14	1
56-23-5	Carbon tetrachloride	0.5	U	0.14	0.5
563-58-6	1,1-Dichloropropene	1	U	0.3	1
71-43-2	Benzene	0.5	U	0.17	0.5
107-06-2	1,2-Dichloroethane	0.5	U	0.15	0.5
79-01-6	Trichloroethene	0.5	U	0.19	0.5
108-05-4	Vinyl acetate	1	U	0.18	1
78-87-5	1,2-Dichloropropane	1	U	0.15	1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SK-TRIP-01

Lab Name: Spectrum Analytical, Inc. Contract: S&K Hand Tools

Lab Code : PEL Case No. SAS No: SDG No.: 3504671

Matrix: WATER Lab Sample ID: 350467107 Lab File ID: 467107.D

Sample wt/vol: 5 Units: ML Date Received: 12/01/11

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/12/11 Time: 1800

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
74-95-3	Dibromomethane	1	U	0.4	1
75-27-4	Bromodichloromethane	0.5	U	0.15	0.5
10061-01-5	cis-1,3-Dichloropropene	1	U	0.4	1
108-10-1	4-Methyl-2-pentanone	4	U	1	4
108-88-3	Toluene	1	U	0.14	1
10061-02-6	trans-1,3-Dichloropropene	1	U	0.3	1
79-00-5	1,1,2-Trichloroethane	1	U	0.2	1
127-18-4	Tetrachloroethene	0.5	U	0.21	0.5
142-28-9	1,3-Dichloropropane	0.4	U	0.3	0.4
591-78-6	2-Hexanone	4	U	0.48	4
124-48-1	Dibromochloromethane	0.2	U	0.13	0.2
106-93-4	1,2-Dibromoethane	1	U	0.11	1
108-90-7	Chlorobenzene	0.5	U	0.16	0.5
630-20-6	1,1,1,2-Tetrachloroethane	0.5	U	0.14	0.5
100-41-4	Ethylbenzene	0.5	U	0.22	0.5
179601-23-1	m,p-Xylene	0.4	U	0.23	0.4
95-47-6	o-Xylene	0.5	U	0.5	0.5
100-42-5	Styrene	1	U	0.12	1
75-25-2	Bromoform	1	U	0.19	1
98-82-8	Isopropylbenzene	0.5	U	0.14	0.5
108-86-1	Bromobenzene	1	U	0.21	1
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.13	1
96-18-4	1,2,3-Trichloropropane	1	U	0.35	1
103-65-1	n-Propylbenzene	1	U	0.14	1
95-49-8	2-Chlorotoluene	1	U	0.25	1
106-43-4	4-Chlorotoluene	1	U	0.15	1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SK-TRIP-01

Lab Name: Spectrum Analytical, Inc. Contract: S&K Hand Tools

Lab Code : PEL Case No. SAS No: SDG No.: 3504671

Matrix: WATER Lab Sample ID: 350467107 Lab File ID: 467107.D

Sample wt/vol: 5 Units: ML Date Received: 12/01/11

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/12/11 Time: 1800

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
108-67-8	1,3,5-Trimethylbenzene	1	U	0.14	1
98-06-6	tert-Butylbenzene	1	U	0.2	1
95-63-6	1,2,4-Trimethylbenzene	1	U	0.13	1
135-98-8	sec-Butylbenzene	1	U	0.1	1
541-73-1	1,3-Dichlorobenzene	2	U	0.15	2
106-46-7	1,4-Dichlorobenzene	3	U	0.15	3
99-87-6	4-Isopropyltoluene	1	U	0.14	1
104-51-8	n-Butylbenzene	1	U	0.16	1
95-50-1	1,2-Dichlorobenzene	1	U	0.25	1
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2
120-82-1	1,2,4-Trichlorobenzene	1	U	0.4	1
87-68-3	Hexachlorobutadiene	0.5	U	0.36	0.5
91-20-3	Naphthalene	5	U	0.5	5
87-61-6	1,2,3-Trichlorobenzene	2	U	0.16	2
1634-04-4	Methyl tert-butyl ether	1	U	0.5	1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 121211BLK62

Lab Name: Spectrum Analytical, Inc. Contract: S&K Hand Tools

Lab Code : PEL Case No.: SAS No: SDG No.: 3504671

Matrix: WATER Lab Sample ID: 121211BLK62 Lab File ID: BLK62.D

Sample wt/vol: 5 Units: ML Date Received: 12/12/11

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/12/11 Time: 0910

PercentSolids: 0 decanted : (Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
75-71-8	Dichlorodifluoromethane	1	U	0.17	1
74-87-3	Chloromethane	1	U	0.32	1
75-01-4	Vinyl chloride	1	U	0.18	1
74-83-9	Bromomethane	1	U	0.43	1
75-00-3	Chloroethane	1	U	0.72	1
75-69-4	Trichlorofluoromethane	1	U	0.4	1
75-35-4	1,1-Dichloroethene	0.5	U	0.19	0.5
74-88-4	Methyl iodide	1	U	0.74	1
75-15-0	Carbon disulfide	1	U	0.19	1
75-09-2	Methylene chloride	5	U	0.66	5
156-60-5	trans-1,2-Dichloroethene	0.5	U	0.33	0.5
75-34-3	1,1-Dichloroethane	1	U	0.15	1
67-64-1	Acetone	2.1	J	1.3	10
594-20-7	2,2-Dichloropropane	1	U	0.6	1
156-59-2	cis-1,2-Dichloroethene	0.5	U	0.19	0.5
74-97-5	Bromochloromethane	1	U	0.17	1
78-93-3	2-Butanone	4	U	2	4
67-66-3	Chloroform	0.5	U	0.16	0.5
71-55-6	1,1,1-Trichloroethane	1	U	0.14	1
56-23-5	Carbon tetrachloride	0.5	U	0.14	0.5
563-58-6	1,1-Dichloropropene	1	U	0.3	1
71-43-2	Benzene	0.5	U	0.17	0.5
107-06-2	1,2-Dichloroethane	0.5	U	0.15	0.5
79-01-6	Trichloroethene	0.5	U	0.19	0.5
108-05-4	Vinyl acetate	1	U	0.18	1
78-87-5	1,2-Dichloropropane	1	U	0.15	1
74-95-3	Dibromomethane	1	U	0.4	1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 121211BLK62

Lab Name: Spectrum Analytical, Inc. Contract: S&K Hand Tools

Lab Code : PEL Case No.: SAS No: SDG No.: 3504671

Matrix: WATER Lab Sample ID: 121211BLK62 Lab File ID: BLK62.D

Sample wt/vol: 5 Units: ML Date Received: 12/12/11

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/12/11 Time: 0910

PercentSolids: 0 decanted : (Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
75-27-4	Bromodichloromethane	0.5	U	0.15	0.5
10061-01-5	cis-1,3-Dichloropropene	1	U	0.4	1
108-10-1	4-Methyl-2-pentanone	4	U	1	4
108-88-3	Toluene	1	U	0.14	1
10061-02-6	trans-1,3-Dichloropropene	1	U	0.3	1
79-00-5	1,1,2-Trichloroethane	1	U	0.2	1
127-18-4	Tetrachloroethene	0.5	U	0.21	0.5
142-28-9	1,3-Dichloropropane	0.4	U	0.3	0.4
591-78-6	2-Hexanone	4	U	0.48	4
124-48-1	Dibromochloromethane	0.2	U	0.13	0.2
106-93-4	1,2-Dibromoethane	1	U	0.11	1
108-90-7	Chlorobenzene	0.5	U	0.16	0.5
630-20-6	1,1,1,2-Tetrachloroethane	0.5	U	0.14	0.5
100-41-4	Ethylbenzene	0.5	U	0.22	0.5
179601-23-1	m,p-Xylene	0.4	U	0.23	0.4
95-47-6	o-Xylene	0.5	U	0.5	0.5
100-42-5	Styrene	1	U	0.12	1
75-25-2	Bromoform	1	U	0.19	1
98-82-8	Isopropylbenzene	0.5	U	0.14	0.5
108-86-1	Bromobenzene	1	U	0.21	1
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.13	1
96-18-4	1,2,3-Trichloropropane	1	U	0.35	1
103-65-1	n-Propylbenzene	1	U	0.14	1
95-49-8	2-Chlorotoluene	1	U	0.25	1
106-43-4	4-Chlorotoluene	1	U	0.15	1
108-67-8	1,3,5-Trimethylbenzene	1	U	0.14	1
98-06-6	tert-Butylbenzene	1	U	0.2	1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 121211BLK62

Lab Name: Spectrum Analytical, Inc. Contract: S&K Hand Tools

Lab Code : PEL Case No.: SAS No: SDG No.: 3504671

Matrix: WATER Lab Sample ID: 121211BLK62 Lab File ID: BLK62.D

Sample wt/vol: 5 Units: ML Date Received: 12/12/11

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/12/11 Time: 0910

PercentSolids: 0 decanted : (Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
95-63-6	1,2,4-Trimethylbenzene	1	U	0.13	1
135-98-8	sec-Butylbenzene	1	U	0.1	1
541-73-1	1,3-Dichlorobenzene	2	U	0.15	2
106-46-7	1,4-Dichlorobenzene	3	U	0.15	3
99-87-6	4-Isopropyltoluene	1	U	0.14	1
104-51-8	n-Butylbenzene	1	U	0.16	1
95-50-1	1,2-Dichlorobenzene	1	U	0.25	1
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2
120-82-1	1,2,4-Trichlorobenzene	1	U	0.4	1
87-68-3	Hexachlorobutadiene	0.5	U	0.36	0.5
91-20-3	Naphthalene	5	U	0.5	5
87-61-6	1,2,3-Trichlorobenzene	2	U	0.16	2
1634-04-4	Methyl tert-butyl ether	1	U	0.5	1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SK-SS-001

Lab Name: Spectrum Analytical, Inc. Contract: S&K Hand Tools

Lab Code : PEL Case No. SAS No: SDG No.: 3504671

Matrix: SOIL Lab Sample ID: 350467101 Lab File ID: 467101.D

Sample wt/vol: 0.5 Units: ML Date Received: 12/01/11

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/15/11 Time: 1256

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260 TCLP

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: MG/L

TCLP Analysis

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
75-01-4	Vinyl chloride	0.01	U	0.0018	0.01
75-35-4	1,1-Dichloroethene	0.005	U	0.0019	0.005
78-93-3	2-Butanone	0.04	U	0.02	0.04
67-66-3	Chloroform	0.005	U	0.0016	0.005
56-23-5	Carbon tetrachloride	0.005	U	0.0014	0.005
71-43-2	Benzene	0.005	U	0.0017	0.005
107-06-2	1,2-Dichloroethane	0.005	U	0.0015	0.005
79-01-6	Trichloroethene	0.005	U	0.0019	0.005
127-18-4	Tetrachloroethene	0.0081		0.0021	0.005
108-90-7	Chlorobenzene	0.005	U	0.0016	0.005

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SK-DRUM-003

Lab Name: Spectrum Analytical, Inc. Contract: S&K Hand Tools

Lab Code : PEL Case No. SAS No: SDG No.: 3504671

Matrix: SOIL Lab Sample ID: 350467105 Lab File ID: 467105R.D

Sample wt/vol: 0.5 Units: ML Date Received: 12/01/11

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/15/11 Time: 1517

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260 TCLP

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: MG/L

TCLP Analysis

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
75-01-4	Vinyl chloride	0.01	U	0.0018	0.01
75-35-4	1,1-Dichloroethene	0.005	U	0.0019	0.005
78-93-3	2-Butanone	1.4		0.02	0.04
67-66-3	Chloroform	0.005	U	0.0016	0.005
56-23-5	Carbon tetrachloride	0.005	U	0.0014	0.005
71-43-2	Benzene	0.0196		0.0017	0.005
107-06-2	1,2-Dichloroethane	0.005	U	0.0015	0.005
79-01-6	Trichloroethene	0.005	U	0.0019	0.005
127-18-4	Tetrachloroethene	0.005	U	0.0021	0.005
108-90-7	Chlorobenzene	0.005	U	0.0016	0.005

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 121511BLK31

Lab Name: Spectrum Analytical, Inc. Contract: S&K Hand Tools

Lab Code : PEL Case No.: SAS No: SDG No.: 3504671

Matrix: WATER Lab Sample ID: 121511BLK31 Lab File ID: TBLK31.D

Sample wt/vol: 0.5 Units: ML Date Received: 12/15/11

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/15/11 Time: 1001

PercentSolids: 0 decanted : (Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260 TCLP

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: MG/L

TCLP Analysis

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
75-01-4	Vinyl chloride	0.01	U	0.0018	0.01
75-35-4	1,1-Dichloroethene	0.005	U	0.0019	0.005
78-93-3	2-Butanone	0.04	U	0.02	0.04
67-66-3	Chloroform	0.005	U	0.0016	0.005
56-23-5	Carbon tetrachloride	0.005	U	0.0014	0.005
71-43-2	Benzene	0.005	U	0.0017	0.005
107-06-2	1,2-Dichloroethane	0.005	U	0.0015	0.005
79-01-6	Trichloroethene	0.005	U	0.0019	0.005
127-18-4	Tetrachloroethene	0.005	U	0.0021	0.005
108-90-7	Chlorobenzene	0.005	U	0.0016	0.005

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SK-SS-001

Lab Name: Spectrum Analytical, Inc. Contract: S&K Hand Tools

Lab Code : PEL Case No. SAS No: SDG No.: 3504671

Matrix: SOIL Lab Sample ID: 350467101 Lab File ID: 67101.D

Sample wt/vol: 480 Units: ML Date Received: 12/01/11

Concentrated Extract Volume: 1 Date Extracted: 12/12/11

Level:(low/med) LOW Date Analyzed: 12/13/11 Time: 1630

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270 TCLP

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: MG/L

TCLP Analysis

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
110-86-1	Pyridine	0.00833	U	0.00438	0.00833
106-46-7	1,4-Dichlorobenzene	0.00833	U	0.00562	0.00833
95-48-7	2-Methylphenol	0.00833	U	0.00542	0.00833
67-72-1	Hexachloroethane	0.00833	U	0.00542	0.00833
106-44-5	4-Methylphenol	0.0208	U	0.0127	0.0208
98-95-3	Nitrobenzene	0.00833	U	0.00208	0.00833
87-68-3	Hexachlorobutadiene	0.00833	U	0.00521	0.00833
88-06-2	2,4,6-Trichlorophenol	0.00833	U	0.00175	0.00833
95-95-4	2,4,5-Trichlorophenol	0.00833	U	0.00708	0.00833
121-14-2	2,4-Dinitrotoluene	0.00833	U	0.00583	0.00833
118-74-1	Hexachlorobenzene	0.00833	U	0.000854	0.00833
87-86-5	Pentachlorophenol	0.0208	U	0.00292	0.0208

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SK-DRUM-003

Lab Name: Spectrum Analytical, Inc. Contract: S&K Hand Tools

Lab Code : PEL Case No. SAS No: SDG No.: 3504671

Matrix: SOIL Lab Sample ID: 350467105 Lab File ID: 67105D20.D

Sample wt/vol: 500 Units: ML Date Received: 12/01/11

Concentrated Extract Volume: 10 Date Extracted: 12/12/11

Level:(low/med) LOW Date Analyzed: 12/13/11 Time: 2051

PercentSolids: 0 decanted : Dilution Factor: 20

Extraction: SEPF Station ID: Method: 8270 TCLP

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: MG/L

TCLP Analysis

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
110-86-1	Pyridine	1.6	U	0.84	1.6
106-46-7	1,4-Dichlorobenzene	1.6	U	1.1	1.6
95-48-7	2-Methylphenol	1.6	U	1	1.6
67-72-1	Hexachloroethane	1.6	U	1	1.6
106-44-5	4-Methylphenol	4	U	2.4	4
98-95-3	Nitrobenzene	1.6	U	0.4	1.6
87-68-3	Hexachlorobutadiene	1.6	U	1	1.6
88-06-2	2,4,6-Trichlorophenol	1.6	U	0.34	1.6
95-95-4	2,4,5-Trichlorophenol	1.6	U	1.4	1.6
121-14-2	2,4-Dinitrotoluene	1.6	U	1.1	1.6
118-74-1	Hexachlorobenzene	1.6	U	0.16	1.6
87-86-5	Pentachlorophenol	4	U	0.56	4

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 110751MB

Lab Name: Spectrum Analytical, Inc. Contract: S&K Hand Tools

Lab Code : PEL Case No.: SAS No: SDG No.: 3504671

Matrix: WATER Lab Sample ID: 110751MB Lab File ID: 7640MB.D

Sample wt/vol: 480 Units: ML Date Received: 12/05/11

Concentrated Extract Volume: 1 Date Extracted: 12/12/11

Level:(low/med) LOW Date Analyzed: 12/13/11 Time: 1408

PercentSolids: 0 decanted : (Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270 TCLP

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: MG/L

TCLP Analysis

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
110-86-1	Pyridine	0.00833	U	0.00438	0.00833
106-46-7	1,4-Dichlorobenzene	0.00833	U	0.00562	0.00833
95-48-7	2-Methylphenol	0.00833	U	0.00542	0.00833
67-72-1	Hexachloroethane	0.00833	U	0.00542	0.00833
106-44-5	4-Methylphenol	0.0208	U	0.0127	0.0208
98-95-3	Nitrobenzene	0.00833	U	0.00208	0.00833
87-68-3	Hexachlorobutadiene	0.00833	U	0.00521	0.00833
88-06-2	2,4,6-Trichlorophenol	0.00833	U	0.00175	0.00833
95-95-4	2,4,5-Trichlorophenol	0.00833	U	0.00708	0.00833
121-14-2	2,4-Dinitrotoluene	0.00833	U	0.00583	0.00833
118-74-1	Hexachlorobenzene	0.00833	U	0.000854	0.00833
87-86-5	Pentachlorophenol	0.0208	U	0.00292	0.0208

PEL

A DIVISION OF SPECTRUM ANALYTICAL, INC. Featuring HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

3504671

Page 1 of 1

Special Handling:
TAT- Indicate Date Needed: STANDARD
- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: NBABU@OTIE.COM

Invoice To: OTIE

Project No.: 20101O1-1013

Site Name: S&K Hand Tools

Location: 135 Hickory St., Defiance State: OH

Project Mgr.: Naren Babu

P.O. No.: 20101O1-1013 RQN:

Sampler(s): Elisa W. & Naren B.

1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid 7=CH_3OH
8= $NaHSO_4$ 9=_____ 10=_____ 11=_____

List preservative code below:

Notes:

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1= waste solid X2= waste liquid X3=_____

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analyses: PN	TCLP VOCs	TCLP SVOCs	TCLP metals	Cyanide	Total VOCs	QA/QC Reporting Level / Notes
-01	SK-SS-001	11/30/11	1200	G	X1			1			X	X	X			
-02	SK-DRUM-001	11/30/11	1215	G	X2				1	X						Caution: May be Acid
-03	SK-DRUM-002	11/30/11	1230	G	X2				1	X						"
-04	SK-SS-002	11/30/11	1245	G	SL			1					X			
-05	SK-DRUM-003	11/30/11	1300	G	SL		1				X	X	X			
-06	SK-DRUM-004	11/30/11	1315	G	X2				1					X		Caution: High CN
-07	SK-TRIP-1	~~11/29/11~~ 11/30/11			DW	2									X	

QA/QC Reporting Level
☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other _____
State specific reporting standards:

☐ E-mail to NBABU@OTIE.COM

EDD Format

Relinquished by:	Received by:	Date:	Time:
[signature] Wed 1115	NVL	12-1-11	900

Condition upon receipt: ☒ Iced ☐ Ambient ☒ °C 3.1